Species

To Cite:
Vanaraj G, Pragasan LA, Mutheeswaran S. Observations of interspecific grooming in Tufted grey langurs (*Semnopithecus priam priam*). *Species* 2024; 25: e10s1636
doi: https://doi.org/10.54905/disssi.v25i75.e10s1636

Author Affiliation:
[1]Xaviers Research Foundation, St. Xaviers College, PalayamKottai, Tamil Nadu-627002, India
[2]Environmental Ecology Laboratory, Department of Environmental Sciences, Bharathiar University, Coimbatore, India

*Corresponding Author
Xaviers Research Foundation, St. Xaviers College, PalayamKottai, Tamil Nadu-627002,
India
Email: vanarajganapathyg2@gmail.com
ORCID: 0000-0002-6513-9930

Peer-Review History
Received: 20 January 2024
Reviewed & Revised: 24/January/2024 to 25/March/2024
Accepted: 28 March 2024
Published: 01 April 2024

Peer-Review Model
External peer-review was done through double-blind method.

Species
pISSN 2319–5746; eISSN 2319–5754

DISCOVERY SCIENTIFIC SOCIETY

Observations of interspecific grooming in Tufted grey langurs (*Semnopithecus priam priam*)

Ganapathy Vanaraj[1*], **Arul Pragasan L**[2], **Mutheeswaran S**[1]

ABSTRACT

In the context of forests, this article discusses interspecific grooming between Bonnet macaques (*Macaca radiata diluta*) and Tufted grey langurs (*Semnopithecus priam priam and S. Johnii*).

Keywords: *Tufted grey langur, Bonnet macaque, Nilgiri langur, Interspecific grooming*

1. INTRODUCTION

For some Old-World monkeys, polyspecific association, or mixed troops of two or more species, have been documented (Struhsaker, 1981). Interspecific social interactions are uncommon in mixed troop Old World monkeys, but they might include aggression, grooming, play, and copulation (Cords, 1987). Grooming Matheson and Bernstein, (2000) and alliance formation are the most typical types of collaboration in social animals, notably primates. In most primate communities, grooming is the most common observable habit, demonstrating the closeness among group members (Ashan, 1994). Grooming has been shown to be effective in reducing stress between group members Terry, (1970), developing social relationships Coelho et al., (1983), and cleaning fur (Hladik, 1975; Freeland, 1976).

Grooming is a type of social relationship in which group members form a social tie. Grooming is also regarded an act of hygienic upkeep by self-grooming, referred to as auto grooming, whereas grooming shared with other members of the group or on parts inaccessible to the groomee is referred to as allogrooming or social grooming (Matheson and Bernstein, 2000; Boccia et al., 1989; Borries, 1992). *S. priam priam* has been categorised as Near Threatened in IUCN Red List. Distribution: TGL South and South East India (State of Andhrapradesh, Karnataka, Kerala and Tamil Nadu), highly fragmented distribution from the river Krishna in the Andhrapradesh to Tirunelveli in Tamil Nadu (Roos et al., 2014).

2. METHODS

The current study was carried out at Kalakkad-Mundanthurai Tiger Reserve (KMTR), located at the southern end of the Western Ghats (77°34 '28' E 8° 21 '27' N) and spread over 895.39 km2 across the political boundaries of the Tirunelveli district of Tamil Nadu 27 'N (Figure 1). The total area of the reserve is 895.39 km2. The elevation

ranges from 100 m to 1866 m and the characteristics of vegetation vary from dry thorn scrub to montane wet evergreen forest and grassland at higher altitudes. The topography is mountainous. The average annual precipitation along the crest of Ghats varies between 2000 to 5000 mm and in the foothills of the Ghats from1200 to 2000 mm. The minimum and maximum temperatures are 24 °C and 44 °C. In the perennial river known as the Tamiraparani, the river Peyar, Karaiyar, Kavuthalaiyar, Servalar, Chittar, Pambar and their drainage branches.

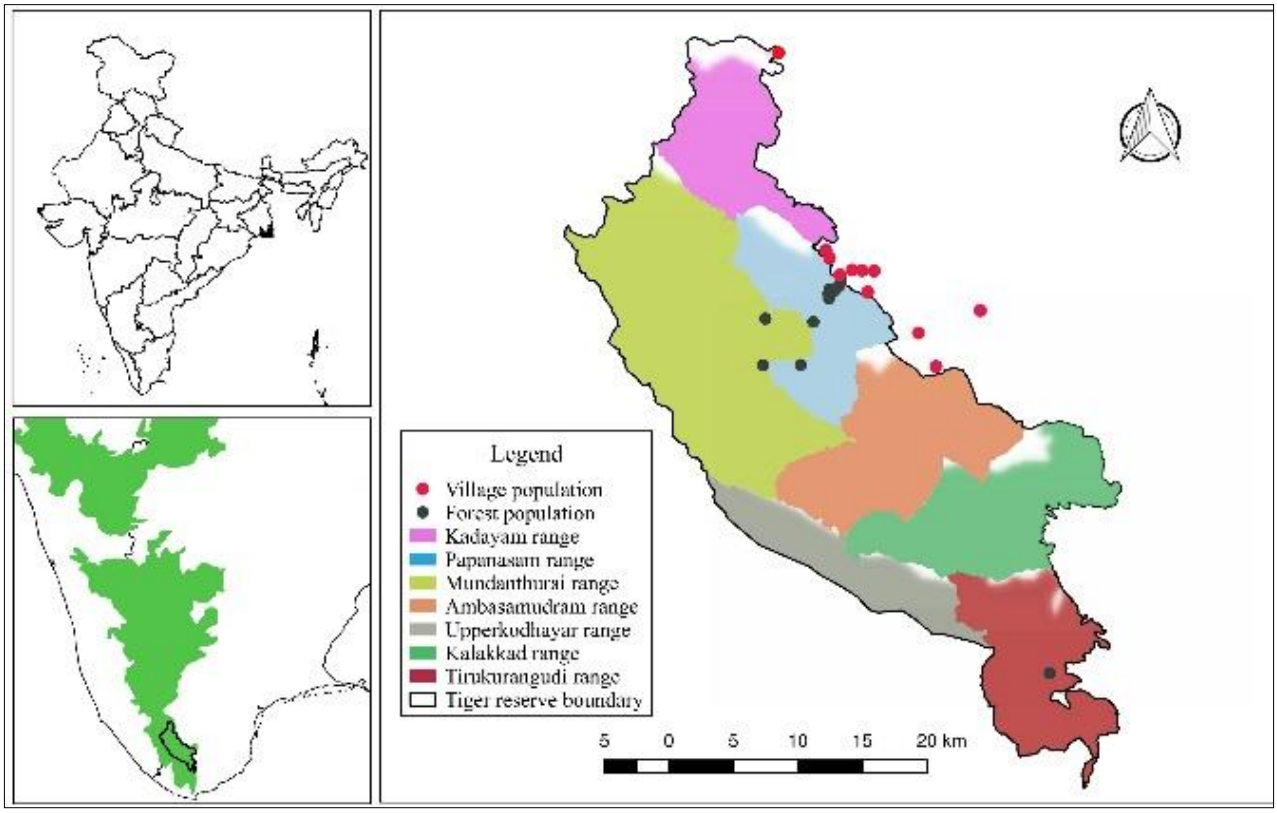

Figure 1 Map of the Kalakkad-Mundanthurai Tiger Reserve (KMTR)

The five primates found in the KMTR are also the Slender Loris (Loris tardigradus), Lion-tailed (Macaca Silenus), Bonnet macaque (Macaca radiata), Nilgiri langur (Semnopithecus johnii) and Tufted grey langur (Semnopithecus priam priam). Tigers (Panthera tigiris), leopards (Panthera pardus) and Asian wild dogs are among the predatory species (Cuon alpinus). Data was collected opportunistically while conducting as a part of the field study on status and behavioural ecology of *Semnopithecus priam priam* at KMTR. TGL and other closely and distantly related primate species grooming behaviour were recorded whenever both species observed together in the study area.

3. RESULT AND DISCUSSION

The majority of research on grooming behaviour and its benefits to animals has focused on non-colobine monkeys. However, there are just a few research on colobine grooming behaviour, including *Macaca radiata radiata diluta*, *Semnopithecus priam priam and Semnopithecus johnii.* The observations were made as part of a study of Tufted grey langur population structure and distribution. *Interspecific* grooming between Bonnet macaque *Macaca radiata diluta* and Tufted grey langur *Semnopithecus priam priam*, *S. Johnii*, and *S. priam priam* in the forests setting is described in this work. Tufted grey langur *(S. priam priam)* restricted to dry tracts and riparian forests and forest fringes villages. Whereas *S. Johnii* restricted to riparian forests to migrate down but restricted to evergreen forests. Despite during behavioral studies of TGL, I found *S. johnii* in the village adjacent to Kalakkad-Mundanthurai Tiger Reserve (KMTR). This is first record in this area. The observations were made as part of a study of TGL population structure and distribution (Figure 2 & 3).

Figure 2 An adult female TGL being groomed by an adult male *Nilgiri langur (S. jhonii)*

Figure 3 An adult female Bonnet macaque (*Macaca radiata diluta*) grooms an adult male TGL.

Allogrooming was observed in Bonnet maccaque M. *radiata radiata diluta*, sub species of Tufted grey langur mixed and pure population of TGL. Hence, the study troops are genetically mixed, it becomes important to know, whether they show any mixed behaviour as TGL mostly use the ground, while Nilgiri langurs are purely arboreal (Poirier, 1970). We were also observed dark-colored, dark grey colored in the present study troops both in the forest and villages adjacent to the KMTR. Further, study should be conducted on whether forests and village populations of TGL have any mixed behavior, more arboreal, or they more ground users, or there were few that were dark colored that shows difference like they spend more time on the trees compared to the light colored.

Acknowledgements

This research was carried out with the assistance of the DST-PURSE fellowship award. The authors would like to thank P. C. Thyagi, IFS, Forest Wildlife Warden, Chennai, Tamil Nadu Forest Department (TNFD), for providing the permit to enter the KalakkadMundanthurai Tiger Reserve to carry out the study.

Conflicts of interests:

The authors declare that there are no conflicts of interests.

Funding:

The study has not received any external funding.

Ethical approval

The ethical guidelines for plants & plant materials are followed in the study for species collection & identification.

Data and materials availability

All data associated with this study are present in the paper.

REFERENCES

1. Ashan MF. Behavioural Ecology of the hoolock gippon (Hylobates hoolock) in Bnagladesh. University of Cambridge, 1994. doi: 10.17863/CAM.31060
2. Boccia ML, Reite M, Laudenslager M. On the physiology of grooming in a pigtail macaque. Physiol Behav 1989; 45(3):667-70. doi: 10.1016/0031-9384(89)90089-9
3. Borries C. Grooming site preferences in female langurs (Presbytis entellus). Int J Primatol 1992; 13:19-32.
4. Coelho AM Jr, Turner SA, Bramblette CA. Allogrooming and social status: an assessment of the contributions of female behavior to the social organization of hamadryas baboons (Papio hamadryas). Primates 1983; 24:184-197.
5. Cords M. Mixed Species Association of Cercopithecus Monkeys in the Kakamega Forest, Kenya. Univ Calif Publ Zool Berkeley, University of California Press, 1987; 117:1-109.
6. Freeland WY. Pathogens and the evolution of primates sociality. Biotropica 1976; 8:12-24.
7. Hladik CM. Ecology, Diet, and social patterning in old and new world primates. In Socioecology and psychology of primates. RH Tuttle, ed. The hague. Mouton 1975; 3-35.
8. Matheson MD, Bernstein IS. Grooming, social bonding, and agonistic aiding in rhesus monkeys. Am J Primatol 2000; 51(3) :177-86. doi: 10.1002/1098-2345(200007)51:3<177::AID-AJP2>3.0.CO;2-K
9. Poirier FE. Dominance Structure of the Nilgiri Langur (Presbytis Johnii) of South India. Folia Primatol (Basel) 1970; 12(3):161-86. doi: 10.1159/000155287
10. Roos C, Boonratana R, Supriatna J, Fellowes JR, Groves PC, Nassh DS, Rylando AB, Mittermeier RA. An updated taxonomy and conservation status review of Asian primates. Asian Primate J 2014; 4(1):2-38.
11. Struhsaker TT. Polyspecific associations amongtropical rain forest primates. Z Tierpsychol 1981; 57:268-304.
12. Terry RL. Primate grooming as a tension reduction mechanism. J Psychol 1970; 76(1):129-36. doi: 10.1080/00223980.1970.9916830